

led the way, has in full and successful operation an institution in all respects creditable to the intelligence and humanity of that enlightened commonwealth. We fear, however, that from the necessity of making immediate provision for the insane, our ignorance of the best models will prevent the formation or adoption of the most suitable plans. The treatment of mental disorders, where large numbers of persons are brought together, as in all public institutions, begins with classification. The first inquiry then, before any plan of building may be fixed upon, will be, into how many classes will the number and condition of our patients render it necessary to subdivide them? This involves several considerations, such as the separation of the sexes, of pay from pauper patients, and of the different grades of mental disease from each other. The first is so evidently proper and necessary, that in all architectural designs, provisions will be made for it as a matter of course. The second, for reasons already stated, is so important, that pay patients should be excluded from all state and other asylums intended for the treatment of paupers. Then there being but one class as to circumstances in life left, this can be subdivided into suitable classes, according to the mental conditions, the habits and propensities of the individuals who are to compose them, so that the whole internal arrangement and management may be comprehended at a glance. If on the contrary, persons from every rank in society, and paying every possible rate of board, be brought together under the same roof, confusion and perplexity will be the never ending consequence.

We will repeat it then, the first step to be taken in the construction of a lunatic asylum is to fix upon the number of classes it is destined to contain; if it is to be for six, or eight, or ten, then let there be as many subdivisions for each sex, entirely independent of each other, with distinct sleeping, sitting and eating rooms, with separate airing grounds, and without any necessary communication between any two classes.

J. M.

ART. XI. *The Nature and Treatment of Dropsy: considered especially in reference to the diseases of the internal organs of the body, which most commonly produce it. Parts I. and II. Anasarca and Ascites. To which is added, an appendix, containing a translation of the work of Dr. Geromini, on Dropsy; from the original Italian.* By EDWARD J. SEYMOUR, M. D., Physician to St. George's Hospital, &c. 8vo. pp. 218: London, 1837.

It is only by pathological researches of a very recent date, that any very clear light has been thrown upon the nature of dropsy. These have shewn it to be in every instance a mere effect, consequence, or symptom of some preceding disease, especially of a change of structure in one or more of the internal organs, by the removal of

which, when practicable, can its cure alone be effected. In a large number of instances it has been found to depend upon an impediment or obstruction to the return of the blood to the right side of the heart; the impaired function of that organ being relieved by the effusion of large quantities of serous fluid, in particular localities where the obstruction is partial, but extending, sooner or later, through the whole cellular texture of the body, when the obstruction arises from disease of the heart itself.

These facts, which have modified very essentially the treatment of the different forms of dropsical effusion, it is the object of the work before us to enforce and illustrate, so far at least as it regards anasarca and acites. Although the author has not attempted a full and complete investigation of the nature and treatment of these two forms of dropsy, presenting merely a brief outline of his own view and experience, his observations are, nevertheless, of great practical value.

The views, as well pathological as therapeutical, which he advances in relation to anasarca, are unquestionably correct; but we cannot yield our assent to the correctness of the position he assumes when treating of the pathology of ascites, that the effusion into the abdomen is, in the greater number of instances, produced by pressure upon the vena portæ, arising from induration of the liver, being persuaded, from our own experience, that it depends more frequently than Dr. S. seems willing to admit upon sub-acute inflammation of the peritoneum. His observations throughout, are, however, of so interesting a character, that we have concluded to present, in place of a mere review of the work, a very full digest of its contents, in which we have, we believe, comprised every thing of importance they afford.

In the introduction, sketches are presented of three presumed cases of dropsy, for the purpose of illustrating the circumstances under which the disease most frequently occurs in hospital and private practice. The accuracy of these sketches will be recognised by every observing physician.

The first chapter opens with the following short statement of the author's views as to the immediate cause of dropsical accumulations in general.

"The proximate or immediate cause of dropsy, appears to consist in the secretion of fluid by the capillary arteries, nearly resembling the serum of the blood, more or less diluted, and in some instances approaching very nearly in consistence to the liquid secretion of lymph, which takes place at the conclusion, and is one of the terminations of serous inflammation."

The correctness of this statement being admitted, and it will not be denied by any one who has carefully investigated the subject, the next important inquiry is into the cause or causes by which the morbid secretion giving rise to dropsy is produced. So far as it regards anasarca, which is the first form of dropsy treated of in the work before us, the author, in accordance with the numerous well observed facts detailed by modern pathologists, refers the production of the morbid secretion into the cellular structure, to disease

1st, of the heart; 2ndly, of the heart and lungs; and 3dly, of the kidneys. There is also, he remarks, a certain condition of the vessels of the skin, occurring after cold suddenly applied to the surface of the body, or after these vessels have been long stimulated during eruptive diseases, in which the capillary arteries secrete a fluid precisely similar to that which is poured out as a relief to the congested vessels, in the organic diseases just referred to.

Œdema, which is the simplest form of dropsy of the cellular membrane, results either from tumours pressing upon the veins above the swelling, or from obstruction of the vein itself. The first occurs, for example, in one leg, in ovarian disease, accordingly as the tumour within the pelvis obstructs the return of blood through the iliac veins; the minuter arteries secreting fluid, which relieves the local congestion. If the tumour change its place, or the pressure be relieved by a horizontal position, the œdema disappears, or is greatly diminished. Œdema from inflammation and consequent obstruction of a vein, is seen in the legs after lying-in, in the arm after phlebitis from bleeding, and often in a single extremity in those diseases termed malignant, or of a cancerous kind, where, on examination after death, the vein will be found obliterated above the swelling, often from a deposition of matter not unlike what is found in the diseased mass, the cause of the patient's death.

"Wherever," remarks Dr. S. "great obstruction exists to the return of blood to the right side of the heart, it would be fair to conjecture from what we see in œdema in a single limb, that the whole venous circulation would be congested, and hence the whole capillary arterial system would secrete fluid, as a relief to the obstruction; and if this did not occur, the balance of the circulation would be in so disturbed a state as to cause rupture of vessels in some vital structure; and this we find to be the case: the capillary arteries pour out fluid into the cellular membrane, of greater or less quantity, according as the obstruction is considerable, and of greater or less consistence, as the patient's vital powers are greater or less, or the obstruction more or less sudden."

"Anasarca, then, is only a symptom of disease of an internal organ, with the exception hereafter to be more minutely described, in which the capillary vessels of the skin take on inflammatory action after cold rapidly applied."

Dr. Seymour proceeds next to show that in the majority of cases anasarca is dependent upon disease of the heart. The heart in these cases is enlarged, with either increase or diminution in the thickness of its parietes. In this form of anasarca, when the valves of the heart are unaffected, the pulse is increased in frequency, and occasionally in force, while the pulsations of the heart are felt over a large surface. Such is generally the case in young persons, when enlargement of the heart and adhesion of the pericardium have occurred subsequent to rheumatic inflammation. In anasarca, from enlargement of the heart, at a more advanced period of life, the valves are also frequently diseased: if the semilunar valves be principally affected, the pulse at the wrist is smaller, while the heart beats turbulently and over a large surface; if the mitral valves be diseased, there is more or less of a grating sensation communicated to the finger on applying it to the pulse at the wrist, and in either case the pulse intermits. The grating

sensation is also observed, when, with enlargement of the heart, there is a very considerable alteration of the lining membrane of the aorta above the semilunar valves, with dilatation of the artery; atheromatous deposit under the lining membrane, with portions of bone being likewise found on dissection. In both cases, but more especially the latter, the patient is subject to very severe paroxysms of pain, lasting for the space of some minutes, hours, or even days, but alternating with intervals of perfect ease.

The author states as a remarkable fact, that very extensive disease of an artery may take place without the occurrence of dropsy; while on the contrary, enlargement of the heart, unless death occur suddenly, previously to the obstruction of the return of blood to the right side being considerable, is usually attended with dropsy during some portion of its progress.

"The circumstance that the great arteries may be diseased to almost any extent, without dropsical effusion, while the heart, much enlarged, has its oppressed functions relieved by effusion, is of considerable advantage in diagnosis of diseases of this important viscus."

Although the anasarous swelling which occasionally occurs in chlorotic females, is not strictly dependent upon organic disease of the heart, yet in such cases it will be found upon examination, the author remarks, that the languid condition of the heart's action, from want of power, gives rise to precisely the same condition, functionally, but in an inferior degree, to what arises from organic disease in the instances above referred to.

"The heart is unable to impel the blood to the extremities, and the capillary veins, neither receive nor transmit the blood with the same rapidity as in a state of health. Congestion of the venous system ensues, hence œdema of the ankles and legs, puffiness of the face, difficulty of breathing: symptoms which are removed by permanently increasing the heart's action by steel, and all the usual means of promoting the growth of the body—as exercise without fatigue, dry air, animal food, &c. The same condition arises after profuse bleedings, or hemorrhage. The obstruction of the circulation of the blood through the minuter branches of the pulmonary artery by disease, causes an inferior degree of congestion in the whole venous system. This is seen in cases of solidified lungs, either the result of inflammation, or obstruction from tubercles. The anasarca in this case is not so general as in diseases of the heart, for a portion of the blood still undergoes, from the extreme minuteness of the ramification of the artery, the usual change; the alteration also has been slow, and the declining strength of the individual, from the injury of this important viscus, has enabled, in some degree, parts to accommodate themselves to the change, *i. e.* the blood is in less quantity, and the obstruction less considerable and sudden, than after enlargement of the heart itself: hence, the dropsy is less severe, being confined to some degree of œdema of the lower extremities for the general dropsy, and effusion of fluid into the chest."

Many cases of extensive disease of the lungs, unquestionably occur, however, without being attended with any degree of dropsical accumulation. In such instances, according to our author, and we believe his explanation to be perfectly correct, copious expectoration taking place affords the relief more safely to the congested circulation, than that which is effected by the effusion into the serous cavities, or the cellular membrane, in other instances. In cases of solidified

lung from tubercles, even where the secretion is not considerable, the diarrhœa or colliquative sweats, which so generally attend, relieve the obstruction.

The circumstances under which anasarca may occur, unconnected with disease of an internal organ, are 1st, when cold is suddenly applied to the surface of the body, and 2nd, subsequent to eruptive fevers.

"It is sufficient, Dr. S. observes, to remember the extreme vascularity of the cutis, the extensive secretion of perspiration over the whole extent—to judge that the impression of cold suddenly applied, checking this necessary secretion, would produce great mischief: the consequence would necessarily be, either inflammation of the vessels themselves, causing a secretion of lymph; or this process would be counteracted by an increased degree of secretion or exhalation in other parts of the body. And what in fact do we find to be the case? Most frequently, when cold is applied suddenly to the surface of the body, diarrhœa is the consequence; increased secretion and exhalation is formed in the intestinal canal, and thus the repressed sensible or insensible perspiration is balanced, and no dropsy takes place." "Ordinary fluids failing to be secreted, which it is the function of these vessels (the cutaneous) to prepare, and no increased secretion taking place from the membrane, (the mucous) the relation of whose properties with the membrane covering the body is so considerable, the vessels secrete lymph, the whole cellular membrane becomes distended, and the swelling is less elastic, more resisting, the skin more stretched and shining, than in the cases where a slow relief is afforded to the obstructed venous circulation. The action of the heart and arteries is increased in force and frequency; the secretion of urine is diminished, and high coloured; the tongue is white; in fact, a feverish condition of the body is formed; blood drawn from the arm shews the buffy coat; there is intolerable thirst present; and the remedies both indicated and effectual, are those which diminish the increased action of the heart and arteries, and control the secretion of coagulable lymph, viz. blood-letting and mercury."

Anasarca occurring after eruptive fevers is treated of in a subsequent chapter.

Chapter II. is devoted to the consideration of anasarca from rheumatic disease of the heart.

"The subjects of this disease are young, and with few exceptions under forty years of age. It has occurred to the author to see this disease in patients of nine years of age: and the most severe case he ever saw, that in which the disorganization of the heart had proceeded to the greatest extent, terminated fatally at the age of thirteen."

In this form of anasarca there is an expression of anxiety, even greater than in that from other diseases of the heart,—

"the pulse is generally small and quick, sometimes intermitting, but very small compared with the action going on within the thorax, a tumultuous beating of the whole organ: this smallness of the pulse compared with the violence of the action in the heart itself, arises from the inordinate growth of the organ, without a corresponding enlargement of the vessels of the heart." "If the anasarca be very considerable, there is little pain felt in the chest, the obstructed circulation being relieved by the pouring out of the secretion from the minuter vessels. If the effusion be only commencing, there is almost always pain in the region of the heart, often pain in the course of the biceps muscle of the left arm, and cramps in the legs: the patient is unable to lie

down, and the most easy position is bending forward over the back of a chair. There is also in the early stage a disposition to syncope. If the effusion has taken place for some weeks, the pain and disturbance in the chest are less felt, and the patient attributes all his sufferings to the dropsy. The legs are tense, the face swelled, and of a pale bluish tint, great difficulty of breathing, the urine scanty and high coloured, and where unaccompanied by disease of the kidney, does not coagulate by the usual method,—the pulse quick and weak, the surface of the body cold; there is present a short dry cough without expectoration, occasionally tinged with blood."

In such cases it will be found upon inquiry that the patient has suffered from an attack of acute rheumatism of the limbs, within a year or perhaps two years preceding the occurrence of the dropsy. Occasionally he has experienced repeated attacks, or one very severe attack has preceded the symptoms by a few months.

The pathological appearances are uniformly, enlargement of the heart—its parietes thickened, especially of the left side, with the cavities also larger than natural, but not in proportion to the increase in the thickness of their walls; the pericardium glued together by layers of lymph, often of old formation and even organized, rarely, when life is terminated by dropsy, very recent.

In anasarca following rheumatism, according to the observations of Dr. S. the other viscera are generally unaffected—the alteration in the structure of the heart being the sole cause of the disease.

The prognosis of these cases is always unfavourable,—but it is to be remarked, that the disease is often more chronic, even in its most severe forms, than dropsy from disease of the heart produced by other causes; and this arises, according to Dr. S., 1st, from the disease most frequently occurring in young persons; hence, if the severity of it be relieved in the first instance, the growth of the chest enables the impaired action to be better borne. Thus, he has seen the disease, in a most severe form, endure for five years. 2ndly, from its not being the result of excess, spirit drinking, &c. other organs have not suffered, as so frequently occurs in anasarca after such indulgences.

The treatment of anasarca from rheumatic diseases of the heart, varies according to the degree of inflammation of the pericardium going on at the time of the effusion. When the effusion has been immediately preceded by pain in the heart, and some swelling, redness or pain in the limbs, inflammatory action undoubtedly exists, and the means to relieve it must be resorted to. A moderate abstraction of blood, performed while the patient is in a horizontal posture, so as to relieve the heart without producing fainting, which when it occurs is liable to terminate in death, is the first remedy. To this should succeed the employment of calomel and opium. Three grains of the first, combined with a quarter of a grain of the latter, may be given every four hours; a blister may also be applied over the region of the heart, and a strictly low diet enjoined.

Dr. S. has found that in this form of anasarca very considerable quantities of calomel may be administered, without affecting the gums or producing any inconvenience whatever. He has repeatedly seen

from fifteen to twenty grains, in the acute stage, given during ten or fourteen days, with no other effect than to improve the breathing, diminish the swelling, procure tranquil sleep, and restore the pulse to its regularity.

Under the same circumstances in which blood-letting and calomel are indicated, the author has found the most useful diuretic in the present form of anasarca, to be nitre—he directs from ten to fifteen grains to be given in mint water twice daily. The quantity of urine, he remarks, secreted under this course, is sometimes very great, and with the most evident relief to the patient. From the preparations of colchicum, Dr. S. has found no beneficial, but rather injurious effects to result.

When the inflammatory symptoms of the case have ceased, and the patient has for months laboured under extensive effusion into the whole cellular structure, with scanty and high coloured urine, great dyspnoea, full, but easily compressible pulse; the swelling of the limbs being lax, white and receiving deep indentations from slight pressure, the object is to discharge the accumulated fluids by diuresis, and thus to relieve urgent symptoms—to this end Dr. S. recommends the preparations of digitalis, as productive of the happiest results. It is the infusion of digitalis which he has found under such circumstances to be the most uniformly successful. He recommends it to be given in the following formula: *R infusi digitalis ℥iv. liquor. oxymur. hydrarg. ℥ij. aq. menth. sativ. ℥viij. tinc. cantharidis mxxx. m.* To be given twice or thrice in the course of the day. The tincture of cantharides, although an active diuretic, rendering, according to our author, every other more effectual, is, however, contraindicated in aged persons, where disease of the urinary organs is present.

The activity of the above diuretic draught, Dr. S. remarks, is sometimes astonishing; he has known as much as a gallon and a half of urine voided in one night, after the second day of its employment. It will occasionally, however, purge, an effect to be prevented by giving a pill composed of one grain of opium every night at bed time.

“It is obvious that the enlargement of the heart continues, when the dropsy which relieved the obstructed circulation is carried off by remedies, and that the patient has a crippled existence,—but in the more opulent classes of society, his life may be spared many years: not so with the poor man, he must return to the rapid changes of temperature—the originally exciting cause of the disease—and to all those circumstances which especially influence the diseased organ, viz. toil, anxiety, vexation, and want. Hence the numerous and unhappy relapses which are seen in hospital practice.”

Anasarca may occur from enlargement of the heart produced by the intemperate use of ardent spirits or malt liquors, or by long continued anxiety and great mental distress. “In the first instance, the heart is much enlarged, principally with increased thickness of the parietes of the left ventricle, and the septum between the ventricles, it occurs from twenty to sixty years of age.”

The distension of the cellular membrane is in these cases enormous—in some instances causing the cutis to split into laminæ, giving

the appearance of fine threads, dividing its texture transversely; in others, effusion occurs in large blisters on the extremities, which by bursting and discharging serum, for a time alleviates the distress.

"The pulse is generally strong and quick, the urine scanty and high coloured, and does not coagulate by heat, or the admixture of acid,—the tongue is furred, the patient obliged to be raised in bed, and complaining of an insupportable oppression. The face is swollen, and often with a bluish tint, and there is constant thirst; the bowels are generally natural in their functions, and the appetite little deranged."

In such cases the most obvious means of relief would appear to be by scarifications or incisions through the skin, which are in fact for the time very effectual. Dr. S. has seen the dropsical swelling entirely reduced by this means in a few days; but in almost every *hospital* case, erysipelas first, and subsequently gangrene, supervened, and the patient died. Acupuncturation in dependant parts produces an inferior degree of relief,—but, according to our author, with less danger, at least in hospital practice. He has, however, known this operation to be followed by erysipelas and gangrene, although far less frequently than incisions through the skin.

The most important of the internal remedies in the form of dropsy under consideration, agreeably to the experience of the author, is elaterium. It may be employed where the strength is yet unbroken, however great may be the oppression from the extent of the effusion, and the relief has often been so great and so permanent as to induce the belief, that not only has the effused fluid been expelled, but that the increased bulk of the parietes of the heart has been diminished. To the elaterium, blood-letting should be premised, as well to unload the congested venous system as to promote absorption. The elaterium may be given in the following formula: *R elaterii gr. ½, subm. hydr. pulv. capsici, āā gr. ij. conf. ros. canin. q. s. ut ft. pil.* To be taken in the morning. This will very frequently produce many liquid stools, accompanied for the most part by severe bilious vomiting, by which absorption is increased. Oppression in this disease should not be confounded with actual debility.

When the elaterium fails, or ceases to produce the desired effect, Dr. S. has succeeded in evacuating the fluid by large doses of cream of tartar. He directs an ounce in solution to be taken every morning; or if this act too violently by stool, half an ounce. Its beneficial effects generally commence after the fourth day.

Anasarca from enlargement of the heart, with attenuated parietes, (chap. S) occurs in constitutions broken down by habitual intemperance, or debilitated by affliction, long continued anxiety, great watching, and sometimes after long continued and profuse evacuations—more frequently in females than in males, and it is more commonly met with in advanced age than the other forms of anasarca from disease of the heart.

The pulse is weak, often irregular; even where there is volume it is very compressible. The face is swelled and of a white appearance, while the integuments pit on the slightest pressure. The effusion is

always preceded by difficulty of breathing, especially on any quick motion; by violent palpitation, and disposition to syncope. The difficulty of breathing is not, as in the former instance, at first much relieved by the effusion, for not unfrequently the cellular membrane connecting the lobules of the lungs is infiltrated also. It is in this form of dropsy that sudden death frequently occurs, even when apparently the disease is diminishing. It is also frequently complicated with dilatation of the arch of the aorta, and deposition of atheromatous matter with spicula of bone under the lining membrane. In such cases, besides the evils arising from the oppression and distension present, there are also paroxysms of severe pain similar to what occurs in *angina pectoris*.

It is in this form of the disease, where the tone of the system is much impaired, according to our author, that the preparations of *digitalis* as diuretics are most effectual. The *digitalis* may be combined with mercury, (*pil. hyd. gr. iij.*; *scillæ exsicc.*, *pulv. fol. digitalis āā gr. j.*) or given in infusion with the *liq. oxymur. hyd.* in mint water; and if the patient labour under no disease of the bladder or urethra, with the tincture of *cantharides*, by which latter its diuretic powers will be greatly increased.

"The nitrate of potass in solution, in the dose of fifteen grains; the acet. potass. in the dose of from one to two drachms, either in its usual form, or made by neutralizing in solution the carbonate of potass with the vinegar of squills* may be given in a draught, with a pill consisting of three grains of the blue pill, several times in the day; or a kind of punch may be given, made with cream of tartar instead of lemons, to every pint of which two ounces of gin may be added: all these are very effectual diuretic drinks. The latter is very convenient in hospital practice.

"The spirit of nitric ether may be added, in the dose of a drachm to a draught containing ten grains of nitre dissolved in mint water; or it may be given as a beverage in the proportion of two drachms, or two drachms and a half of ether in six ounces of water: in this latter form it is not disagreeable."

From the observation of several years Dr. S. considers that, in the form of dropsy under consideration, the most effectual diuretics stand in the following order of utility:—Infusion of *digitalis* with *tinct. cantharid.*; nitrate of potass; *supertart. potassæ* with *sp. juniper comp.*; pill *hydrarg.*, *pulv. dig.*, et *scillæ exsicc.* in form of pill; *acet. et tinct. scillæ*; *infus. pyrolæ umbellatæ*, an ounce of the leaves and stalks to a pint of water, which should be drunk during the day. The latter is, however, improper in cases of advanced age, or where the patient has suffered from stricture. *Decoc. spartii*, an ounce of the broom tops to a pint and a half of water boiled to a pint, and mixed with an equal quantity of hot milk, or in infusion as common tea, it is most useful in the convalescent stage—*sp. ætheris nitrici*; *sp. armoraciæ comp.*

If the dropsy be of recent date, the above means, we are told, will often suffice to carry off the water by diuresis, while careful attention to diet, which should be nutritious but not stimulating, carriage exer-

* The following was a favourite prescription of the late Sir F. Milman:—*Rx.* *aq. menth. virid. ʒj.* *aq. puræ ʒss.*; *carb. potass gr. xv.*; *aceti distill. ʒvj.* *aq. pip. Jamaic.*; *syrup. aceti scillæ, āā ʒj.*, mix for a dose.

cise, pure air, and the avoidance as much as possible of harassing and anxious occupations, will sometimes prolong for years the patient's life. But where the dropsy has been of several months continuance, little is to be expected except relief. Even here, however, life may be prolonged for a considerable time, under the most unfavourable circumstances, in the opulent.

It sometimes happens, while the dropsy has for a long time resisted the remedies employed, that after the administration of some trifling remedy, the swelling begins to subside with great rapidity, and the patient feels delighted at this apparently favourable circumstance. This rapid subsidence of the anasarca, Dr. S. considers, when not preceded by a gradually increased flow of urine or other evacuations, as a very fatal symptom. "The vital powers are no longer sufficiently strong to afford relief to the obstructed circulation; secretion from the smaller and more minute vessels no longer relieves the labouring heart." In several cases which have fallen under the author's notice, the patient has never rallied, after such sudden subsidence of the effusion, beyond a month, though he has heard of life being prolonged somewhat longer.

Anasarca, from the sudden impression of cold, (chap. 4,) according to Dr. S., is not of very frequent occurrence. When it does take place, the intumescence of the surface is hard and tense, the pulse hard, the urine very scanty and incoagulable by heat or acids, the heart presents no indications of organic disease, though its action is increased; the bowels are costive. There is a general febrile excitement; the vessels of the skin over the whole surface of the body secrete serum, and the mucous membrane is deprived of the natural secretions furnished by its vessels in a state of health.

The indications of cure are to diminish increased action and to restore the secretions, especially those of the intestinal mucous membrane.

The patient should be immediately bled, and the bleeding is to be followed by a pill, night and morning, composed of three grains of calomel and one of opium, with a saline draught three or four times in the day; every second morning the bowels should be freely opened with senna and crystals of tartar. The cure will generally be perfect in about ten days; but the patient should be confined to the house for a few days longer.

The pathology of anasarca succeeding to scarlet fever is, Dr. S. remarks, not well understood; he is convinced, however, that it is seldom fatal, and is of far less frequent occurrence than formerly. The French and Italian physicians attribute the production of the dropsy in such cases to the impression of cold upon the surface.

"The cold practice in this disease," observes our author, "universally pursued in Britain, and which is rarely followed by anasarca, is the best answer to such an explanation. The same may be said of the opinions which attribute this form of disease exclusively to weakness."

Dr. S. remarks that nearly all eruptive diseases, when mild and little interfered with by remedies, are followed by diarrhœa; this

being the means by which nature terminates the cure; and hence when saline purgatives are freely used throughout the disease, anasarca seldom supervenes. It is mentioned as a remarkable fact that the occurrence of dropsy after scarlatina is by no means in proportion to the severity of the attack. A very slight febrile attack is sometimes followed by it; and the author does not recollect among the "very worst cases of a low type to have ever seen one terminate in serous effusion."

"Anasarca, after scarlatina, begins generally from the fourteenth to the eighteenth day after the commencement of the disease—sometimes gradually, sometimes within the space of a very few hours."—"In many instances the urine is mixed with blood, and in such cases coagulates."

In regard to the treatment, the author directs, "If the preceding fever has been slight, and the forces of the patient little broken, and especially if it has been thought unnecessary to purge in the disease, and no diarrhoea has supervened," that blood-letting should not be omitted, and that the patient be freely purged with calomel, followed by senna with crystals of tartar, or a tea-spoonful of an electuary composed of two drachms of jalap, half an ounce of cream of tartar, and half an ounce of honey, to be repeated every alternate day, a beverage of half an ounce of *sp. ætheris nitrici* in half a pint or a pint of water, with a small proportion of syrup, being administered during the day.

If the patient be weakly, or his forces are much broken by previous delicate health, and a severe attack of illness, the author directs that recourse be had to diuretics—either the combination of *digitalis* with a bitter, or some of the bitter diuretic infusions. He has seen the best effects result from a combination *infus. digital.* and *infus. gentianæ*, of each three ounces, with one drachm *liquor potassæ*; and in a few cases striking benefit has resulted from the infusion of *pyrola umbellata*, to every pint of which half a drachm of *tinct. lyttæ* has been added, in the dose of two ounces every four hours. Dr. S. has never known benefit to result from the use of tonics alone. He conceives that, in many cases, the vapour bath will be a valuable adjunct in promoting the cure, by inducing a more healthy action of the skin; the use of the lancet should, however, always be premised.

"In chlorotic anasarca and in anasarca occurring after great loss of blood, a functional condition of the heart occurs not very dissimilar to what happens when the viscus is itself diseased in its structure."

"In chlorosis there is a deficiency of red blood,—the heart makes up in frequency, in very severe cases, what it wants in force, (the same occurs after great loss of blood—hence what is called the hemorrhagic pulse,) and the blood again shews a disposition to stagnate in the right side of the heart; the ankles and legs swell, the face is puffy and white; in slight cases the pulse is languid, in severe ones, rapid and very weak; there is terrible palpitation on ascending a stair; the pulsation is communicated to the jugular veins, and there is much headache: but the treatment is widely different from that necessary in a case of organic disease; the patient's strength in this instance must be built up, the injured organ is not to be relieved from its oppression by evacuants, but stimulated gradually to circulate the blood more regularly, while nutrition affords this fluid of its natural and stimulating quality."

The preparations of steel, where they can be administered without exciting fever, are the best remedies in these cases.

"The ammoniated tincture, given in the dose of half a drachm to one drachm several times in the day, will be generally borne; when, however, it produces much headache, the cure should be commenced by ammonia, æther, or the foetid gums; after a short time steel will be borne, and in another week, the most effectual, in the author's experience, of all the preparations of steel, the *mist. ferri comp.* will be taken in the dose of an ounce, gradually increased to two ounces, twice in the day, with the most decided benefit. To this must be added, if possible, horseback exercise, and pure dry air; first the lightest, and then the most nutritious animal food should be administered."

By these means an effectual cure may be accomplished.

Chapter V. Anasarca from disease of the kidneys.

"That the kidneys are frequently diseased, as a cause of dropsy, is a modern discovery, which we owe to the patient investigation and sagacity of Dr. Richard Bright; and subsequent authorities have confirmed the fact, that the disease of these organs is always accompanied by a greater or less degree of coagulability of the urine, according as a greater or less degree of alteration of the structure of the kidneys exists—from perfect granulation, as pointed out by Dr. Bright, to simple engorgement.

"The specific gravity of the urine is also always less than in healthy urine, and there is often found a deficiency of urea in it."

"The urine in this disease is sometimes scanty and high coloured; but in the worst cases the urine has been found to be pale and abundant, while the anasarca was general and to a great extent. In such cases the disease is very fatal; and the condition of the kidney, its extensive disorganization and obstruction visible after death, explains the reason why anasarca without any diminution of the secretion of the urine, was always looked upon as a condition of disease unusually hopeless."

The coagulability of the urine after scarlatina, with admixture of blood, was noticed by Drs. Wells and Blackall. It may occur in dropsies from cold, in which an inflammatory state of the system exists, and is then relieved by the ordinary antiphlogistic remedies.

Dr. Bright would appear, in cases in which disease of the liver, heart and kidneys co-exist, to consider the disease of the kidneys to be the primary affection, and that of the two other organs merely secondary. Dr. S. however, believes that the disease of all the above organs are to be referred to the same cause, the abuse of ardent spirits, or long continued and repeated exposure to cold.

"When a patient presents himself for examination with anasarca of the legs, thighs, and parietes of the abdomen, of some weeks duration, where no disturbance in the motion or regularity of the heart's action is to be perceived, and on testing the urine by heat, or the addition of a mineral acid, it coagulates strongly, we may safely conclude that disease of the kidneys is the organic cause of the dropsy; if the urine be scanty and high coloured, it is a relievable case; if abundant and pale coloured, one of deep anxiety. The skin is singularly pale and dry in this disease: and Dr. Bright has very fully exemplified the fact, that persons labouring under it are subject to sudden inflammatory attacks of various viscera, and even of effusion into the ventricles of the brain. The principal indications of cure, then, are to get rid of the dropsy by such remedies as will alter the morbid condition of the urine; and secondly, to remove any inflammatory attack which may arise in the course of the treatment.

Dr. Bright, and subsequently Dr. Osborne, have laid great stress on the sympathy which exists between the skin and kidneys, and recommend every attention to restore the healthy secretion of this organ."

Dr. Wells cured three cases out of five, of anasarca with coagulable urine, with cantharides.—Dr. Bright states that he has succeeded with the cream of tartar in several instances, and Dr. S. states that he has found the latter far more useful than any other article in the form of dropsy under consideration. He has employed at the same time the vapour bath, on alternate days. The perspiration excited by the bath is excessive, and its use should be graduated to the patient's strength. When there is pain in the lumbar region, as not unfrequently occurs in an aggravated form of the disease, cupping is very useful, and every intercurrent inflammatory disease Dr. S. has been in the habit of treating exactly as if no dropsy had existed, according to its symptoms and locality—blisters only being excepted, from their being often followed by erysipelas, and even sloughing.

The second part of the treatise is devoted to the consideration of ascites or dropsy of the abdomen.

Dr. S. is of opinion that when the kidneys alone are diseased, ascites does not generally occur; but that any apparently increased bulk of the abdomen arises from anasarca of the cellular membrane of the integuments.

Ascites is occasionally produced when the heart alone is diseased, but from the small extent of the effusion within the peritoneal sac which then takes place, it is subordinate in importance to that into the cellular membrane of the surface of the body. In consequence of the peculiarity of the abdominal circulation, the obstruction to the heart's action from disease of that organ will effect the venous system of the abdomen far less than it does the venous circulation in the other parts of the body.

Dr. S. sets down disease of the liver as the principal cause of abdominal dropsy. He considers, however, that mechanical pressure upon the vena portæ from enlargement of the liver to be very rarely the cause of effusion into the peritoneal cavity, "and then only when the viscus is not simply enlarged, but indurated." The liver, in consequence of "depositions of matter of a malignant nature, known under the name of encephaloid tubercles," is often so much enlarged as to occupy the whole abdomen, without any effusion being present.

"The disease of the liver most frequently connected with ascites, is according to Dr. S., one characterized by diminution of the bulk of the viscus. The liver is about one half its natural size, very hard, and with the sharp edge blunt and rounded. After death, instead of finding it protruding into the belly, we seek for it under the ribs in the right hypochondrium, and find it there drawn up, as it would seem, from its diminished size. The peritoneal coat is, in such cases, most frequently found thickened: this not unusually takes place in parts, and this partial thickening gives to the viscus the appearance of being puckered, not very unlike the lobulated structure of the calf's kidney"—"Occasionally, the whole peritoneal coat is thickened, of a milky white colour, and the viscus beneath contracted, extremely hard to the knife, and presenting a round almost globular mass, when removed from the body.

"The consequence of this change is, the uniform pressure upon and obstruction

of the minute and secreting branches of the *vena portæ*: such an obstruction naturally throws back the blood upon the trunk of the vein; the capillary veins are congested, and the capillary arteries secrete fluid—not a transudation from their coats, as was conceived, but a secretion resembling the serum of the blood.

“This thickening of the peritoneal coat has made some authors suppose that inflammation of this covering alone is sufficient to produce the disease, and that it is never found where such marks of inflammatory action are absent, hence that dropsy is necessarily the result of inflammation.”

The above supposition the author considers to be unfounded, because, as he asserts, peritoneal inflammation may exist to a great extent without dropsical effusion, and because there is another diseased condition of the liver in which, although the peritoneal coat is not implicated, dropsy is the consequence, from *uniform obstruction* being presented to the extreme branches of the *vena portæ*.”

“In this instance, the secreting structure of the liver is nearly obstructed by the deposition of a reddish white substance, by some supposed to be lymph, and the effect of inflammation, by others supposed to be cholesterine.—On a section of the liver, the whole seems to be made up of rounded masses, which, in some instances, can be separated from the cellular membrane which connects them, but the change is uniform throughout the whole mass. In many such cases the peritoneal coat is quite clear and transparent, proving that causes exist, independent of its thickening, to produce such an obstruction to the progress of the blood, as to act as the proximate cause of dropsy.”

In answer to the objection that obstruction alone cannot be the cause of the effusion, because cases occur in which the structure of the liver is wholly obliterated, the secreting parenchyma being changed into a fatty mass, or of a very pale yellow colour, or almost entirely composed of encephaloid tubercles, and yet without dropsy being produced, Dr. S. presumes that, in such instances, there is an alteration in the circulating fluid itself; the arteries do not secrete fluid, in order to keep up the balance of the circulation, impeded by the disease of the viscus, but both solids and fluids undergo a degree of degeneration, and the whole system tends to decay: The countenances of patients thus diseased is of a waxy, yellow colour; no red blood appears circulating on the surface; the principal ailment complained of is excessive weakness and sinking, often without any local pain; the pulse is weak and about a hundred in a minute; the patient is emaciated, and the muscles have lost their firmness and colour,—in blood drawn from the arm, the red particles are scanty, and the fibrin scarcely adheres; there is a weakened state of the nutritive fluid, adapted to the weakened state of parts which act in the function of secretion, both of which tend to produce with certainty the death of the patient.

Of the two diseased states of the liver described above as causes of ascites, the first is the most frequent, we are informed, and is undoubtedly produced by intemperance, especially in the use of ardent spirits. The second, Dr. S. is inclined to believe often arises from indulgence in the use of opium.

“When some induration of the liver accompanies disease of the heart, both ascites and anasarca are present, but the abdominal effusion is small in quantity, compared with what takes place in the cases now to be considered. In the former, the increase of bulk is principally owing to infiltration of the cellu-

lar membrane connecting the muscles of the abdomen; in the latter, these muscles are wasted, the fat absorbed, the distended abdomen is tense in every part, the swollen veins give to the whole a bluish appearance, while the hands and arms are wasted, the features drawn in and haggard,—the legs are also often wasted, and indeed always so, early in the disease, but at length the pressure of the immense body of fluid in the pelvis prevents the return of blood in the iliac veins, and the lower extremities become anasarcaous. The pulse is quick and feeble,—the tongue red, and rough, with prominent papillæ, and sometimes aphthous; the urine is very scanty, and deposits a pink sediment, like the finest rouge; the thirst is insupportable; and the alvine excretions scanty and ill coloured, the bowels being sometimes difficult to move, at others affected with diarrhœa.”

To effect a cure in such cases is impossible—when the effusion is recent, the author states, that advantage is occasionally derived from mercurial friction upon the abdomen; three grains of calomel with six of rhubarb, being given internally every alternate night, followed by infusion of senna with crystals of tartar, in the morning.

In regard to the dandelion, the operation of which has been so much praised in the cases before us, Dr. S. states that although he has seen the article freely administered in extract, decoction and infusion, he has never been able to trace any obvious effect from its use beyond slight diuresis, or occasionally, when in large quantities, relaxation of the bowels. In the form of the disease under consideration the debility of the patient precludes the use of elaterium. His chief comfort, according to Dr. S., is derived from the use of diuretic drinks, especially nitre in solution, which relieves the craving thirst more than any other remedy. For the action of other diuretic remedies he refers to what has been said under the head of anasarca. When the disease is very far advanced, Dr. S. has, in one or two instances, seen two grains sulphate of quinia dissolved in two ounces of water, with a few drops of diluted sulphuric acid and a drachm of the tinct. cardamomi, given on the days in which the calomel and rhubarb are omitted, to work apparently wonders for a few weeks, and to impart not only hope to the patient, but absolute relief by sustaining his strength. The preparations of iron may occasionally be used with success. The muriated tincture acts also, in such cases, sometimes as a powerful diuretic; ten drops may be given thrice daily in infus. quassia.

Tapping as a means of relieving the distension of the abdomen will naturally suggest itself to the mind of every practitioner. Dr. S. although he prefers an early resort to this operation is not inclined to advise its adoption until purges, with neutral salts, and mercurial frictions, have been tried. He very properly remarks, “it is not unaccompanied with danger from peritoneal inflammation; and, as it is well known, the necessity for having recourse to it speedily recurs.”

“When the liver has been contracted during a long period, has a puckered peritoneal coat, or that membrane is thickened like semi-transparent horn, its sharp edge having entirely disappeared, or where the secreting vessels are uniformly obstructed, the fluid drawn off (by tapping) is quite limpid, and enormous in quantity.

“If clear serum, deeply tinged with blood, follow the introduction of the

trochar, we may be certain that a malignant growth of considerable size, often attached to the liver or ovarium, is the cause of the peritoneal dropsy."

When the fluid drawn off is of the colour and consistence of whey, with shreds of lymph floating in it, it is, according to the author, undoubtedly the product of inflammatory action, modified by the strumous habit of the patients in which it principally occurs. In other cases of ascites, he remarks, "inflammation may have been, and probably has been, the cause of the thickening and hardening and contraction of the liver, but the effusion is a consequence of this alteration of structure already produced:" and in cases of serum effused from the pressure of malignant tumours, these latter are, he believes, traced by no one to true inflammatory action at their commencement, or during any part of their growth.

The sudden disappearance of ascites from disease of the liver is generally an occurrence of very dangerous import. This is preceded, remarks our author, often by frequent and almost uncontrollable vomiting; or, if the water has been drawn off by tapping, and does not again collect, violent pains in the bowels occur, with a diarrhœa, which is not to be restrained by any of the usual remedies. After death, Dr. S. has found the intestines to be of a deep leaden blue colour, throughout their whole extent, and the omentum of the same colour—the peritoneal coat of the intestines being thickened and opaque. Sometimes shreds of lymph, of no very recent formation, adhere to the convolutions, but in general the whole peritoneal covering of the intestines is only thickened equally throughout, and of this blue colour. Dr. S. has known the pain and diarrhœa immediately to succeed the disappearance of the fluid and last during several weeks, its severity being little mitigated by remedies.

While Dr. S. points out especially the dependence of ascites upon contracted and hardened liver, he desires not to be understood as overlooking the effusion of fluid into the abdominal cavity which succeeds to enlarged and *hardened* liver and spleen. This is frequent after repeated attacks of ague.

Fortunately, he remarks, except under very aggravated circumstances, the effusion and its cause are capable of being removed, and the patient permanently cured, unless constantly exposed to the influence of miasmata. The remedies, he recommends, are mercurial friction, saline purgatives, douches of cold water and the hydriodate of potass.

"Two or three grains of this latter, taken, dissolved in two or three ounces of water, twice daily, will sometimes succeed when other remedies fail: under its use the patient's strength and appetite will return, while the dropsical effusion sometimes subsides gradually, with an increased and limpid flow of urine; of course if the enlarged viscera be painful to the touch, it will be advisable to apply leeches repeatedly, before having recourse either to mercurial frictions or the use of the hydriodate of potass. Where saline mineral water cannot be obtained, the best medicines are the tartrate or supertartrate of potass, or the Rochelle salt, in the dose of from half an ounce to six drachms, every morning, dissolved in half a pint of water."

In the sixth and last chapter the author treats of ascites from tuber-

culated accretion of the peritoneum, of which latter he presents the following description.

"The disease, where it proves fatal early, consists of a pearly thickening of the peritoneum, the membrane being pushed up by numerous eminences, or tubercles, deposited on the cellular side of the serous membrane: in mere chronic cases, large masses of thick cheesy looking matter are deposited on the cellular side of the omentum, sometimes distending it, like a bag, into an unequal globular tumour, at others into a flat mass, compressing the intestines like a pad." The disease is often accompanied with vomiting of a peculiar character; being of a deep leek green colour, sometimes varying to purple; where this vomiting occurs, the disease of the peritoneum is, according to Dr. S., invariably present; it has, however, been absent in all the instances which have fallen under his notice accompanied with ascites.

"The dropsy which accompanies this disease is always more scanty than that which is the consequence of disease of the liver, sometimes only a few pints, and seldom more than two gallons are poured out."

"It is more common in young people than in old, and in females than in males. The dropsical effusion is often mixed with shreds of lymph, and is more or less whey-coloured, from the presence, doubtless, of low inflammatory action, and it more frequently accompanies the universal thickening of the peritoneal covering of the bowels, than where accretion of the omentum forms the mass of disease: after death the small intestines are glued together, and more than once Dr. S. has seen the whole taken out together, after death, in one globular mass, by passing a ligature round the root of the mesentery.

"The pulse in such cases is weak and quick, the features pinched and sharp, and the tongue red and glazed, as if a hot iron had touched it; sometimes of still deeper red colour, with patches of aphthæ. There is always a sense of weight and distension of the abdomen, even where no ascites is present."

In the treatment of this affection, Dr. S. conceives that the internal use of mercury is rarely of benefit, nor is any really good effect, he states, derived from powerful purgatives, these being apt to produce vomiting, which is much to be dreaded. He has observed where effusion takes place, that it is often early in the disease; whereas, when the disease is fully established, and the prolongation of the serous membranes are formed into hard masses, it is more frequently absent, while the peculiar and fatal vomiting relieves the obstructed circulation.

Tapping has invariably, observes our author, been followed by bad results, increasing the low inflammatory action, and tending thus, perhaps, to exasperate the disease.

If pressure upon the abdomen causes severe pain, Dr. S. directs a bleeding from the arm, or if the patient be weakly, a dozen leeches to the abdomen: further than this, the antiphlogistic practice appears to him to be hurtful, and in many cases, he adds, the practitioner is not consulted until the results of slow inflammation have been established, thus rendering depletion improper, by its weakening the forces of the patient without controlling the action which first produced the disease.

"Frictions with the liniment. hydrarg., morning and evening, are often attended with benefit, but it is on the use of the hydriodate of potass Dr. S. has been accustomed to rely, from finding the general health recover under its influence, and the effusion, hardness and tightness of the abdomen disappear in a remarkable manner. Two grains of this salt, given in a draught of equal parts of cinnamon and common water, with a little syrup, may be administered for several

weeks twice in the day." "During its employment a few leeches may occasionally be applied with advantage where there is any pain upon pressure; if restlessness and sleeplessness be present, five grains of the extr. conii may be given with each draught, in the form of pill. The bowels are generally costive, and Dr. S. has found the best medicine to relieve this to be half an ounce to six drachms of phosphat. sodæ daily in a pint of beef tea.

Very solid tumours of the ovary, or enlargement of that organ, with much of the structure in the cysts solid, will often, from pushing upwards the intestines, compress veins of the vena portæ, and produce ascites. In such cases, the author remarks, the recumbent posture and diuretic remedies will often relieve the ascites in a remarkable degree, and after a time the tumour often shifts its place, and the local pressure is removed.

Dr. S. denies, so far as his observations extend, that dropsy is ever produced by rupture of the lymphatics or thoracic duct, or by simple obstructions of glands causing pressure upon the lymphatic vessels.

Ascites does not succeed eruptive diseases as frequently as anasarca. Dr. S. has never seen it alone. He has heard of one case which was entirely cured by the use of the infus. pyrolæ umbellatæ, and continental writers speak highly of spartium scoparium, and an infusion of the root of the ononis spinosa; when it occurs early, it is probable, he adds, that its progress would be best stopped by antiphlogistic remedies and saline purgatives.

As an appendix to his own observations, Dr. S. has presented a translation from the Italian of Geromini's well known work on the causes and cure of dropsy, in which it is attempted to be proved, and by arguments of an extremely plausible character, that dropsy in every instance is dependent upon inflammation.

D. F. C.

ART. XII. *A Treatise on Tetanus, being the Essay for which the Jacksonian Prize for the year 1834, was awarded by the Royal College of Surgeons in London.* By THOMAS BLIZARD CURLING, Assistant Surgeon to the London Hospital and Lecturer on Morbid Anatomy. 8vo. pp. 236, London, 1836.

The treatise of Mr. Curling is valuable, not because the author has actually succeeded in throwing any new light upon the subject of which he treats, but from its containing a very full and able digest of all the known facts in relation to a disease, of the true pathology and proper management of which the views of physicians have heretofore been extremely vague and confused. Every important and well authenticated fact connected with the disease contained in the medical writings of a recent date, the author appears to have collected with great industry, and he has arranged the materials thus obtained, in such a manner as to present one of the best histories extant of the causes, nature and treatment of tetanus.